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CURRENT STATUS OF RE-USE IN CENTRAL EUROPE

LEONA ŠIMKOVÁ, PETER KRIŽAN[1]

CZ Biom – Czech Biomass Association, Prague, Czech Republic
[1]SjF STU Bratislava, Slovakia
e-mail: peter.krizan@stuba.sk

Preparation for re-use is a new goal of the Waste Framework Directive (2008/98/EC) and preferred treatment of Waste Management in EU. Re-using goods is a verifiably better way of reducing waste than simply recycling it. Nowadays only about 1% of waste generated in Europe is being re-used, while the potential is up to 10 %. The aim of this paper is to present the statistics and examples that prove the potential is manageable. The importance of re-use lies in its environmental, economic and also social contribution. Nowadays, re-using goods in Central Europe is supported via CERREC project – "Central Europe Repair & Re-use Centres and Networks" from Central Europe Programme, that shows the experts, authorities and citizens how re-use can help to save natural resources, increase employment and create new product market.
Key words: re-use, repair, waste, Cerrec.

Trenutno stanje oporabe u središnjoj Europi. Pripremanje za oporabu novi je cilj Direktive o otpadu 2008/98/EC i preferirani postupak gospodarenja otpadom u EU. Ponovna uporaba robe je dokazano bolji način smanjenja otpada od samog recikliranja. Danas se samo oko 1% otpada nastalog u Europi ponovno rabi, dok je potencijal do 10%. Cilj ovog rada je prezentirati statistiku i primjere koji dokazuju potencijal izvodljivosti. Značaj oporabe leži u njenom ekološkom, ekonomskom i društvenom doprinosu. Danas, oporaba robe u Središnjoj Europi je podržana kroz CERREC projekt -„Centri i mreže za oporavak i ponovnu uporavu u Središnjoj Europi" iz Programa Središnje Europe, koji pokazuje stručnjacima, upravi i građanima kako ponovna uporaba može pomoći očuvanju prirodnih resursa, povećanju zaposlenosti i stvoriti nova tržišta.
Ključne riječi: oporaba, oporavak, otpad, Cerrec.

INTRODUCTION

At a European Level, the Waste Framework Directive (*Directive 2008/98/EC of 19 November 2008 on waste*) and the Directive on Waste Electrical and Electronic Equipment (*Directive 2002/96/EC of 27 January 2003 on waste electrical and electronic equipment (WEEE)*) are the most important legal obligations for implementing re-use activities.

The WFD shows public authorities the direction by recommending "accredited re-use and repair centres or networks" and making "preparation for re-use" eligible for counting within the new recycling and re-using rates. These are set at ambitious level of 50% of residual waste by 2020. On Figure 1. Is shown waste hierarchy.

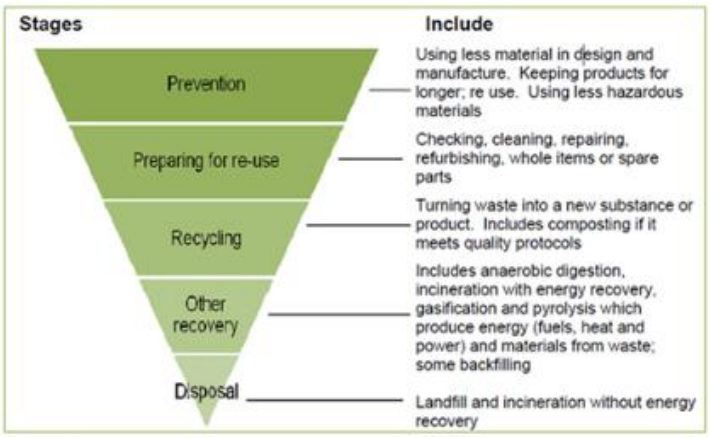

Figure 1. The Waste Hierarchy
Slika 1. Hijerarhija gospodarenja

Implementing the WFD requires changes in the waste management regulations and structures, aiming at a maximum quantity and quality of re-usable goods. Beside this, the Waste Framework Directive requires member states to develop Waste Prevention Programmes by 2013.

This includes a requirement for Member States to determine appropriate specific qualitative or quantitative benchmarks for waste prevention measures adopted in order to monitor and assess the progress of the measures.

ATTITUDES OF EUROPEANS RESOURCE EFFICENCY

According to a survey of Eurobarometr from 2011 [1], almost 9 in 10 (87%) EU citizens think that Europe could be more efficient in its use of natural resources. The same attitude towards the more efficient use of resources (Resource Efficient Europe [2]) is being expressed by the EU politicians.

However, the waste generation is closely linked to the economic growth. According to United Nations Environment Programme (UNEP), between 20 and 50 million tonnes of waste electrical and electronic equipment e-waste is still disposed of each year worldwide (e-waste means old, obsolete, unwanted and end-of-life electronics discards). Only in the US alone, about 14 to 20 million PCs are thrown out every year. In the EU the volume of e-waste is expected to increase by 3 to 5 % a year [3].

Re-using is important for reducing the waste generation. It is an important method of waste management from the perspective of not only environmental but also socio-economic standpoint. However, nowadays only about 1% of waste generated in Europe is being re-used, while the potential is up to 10 %. The re-use sector is also all too often overshadowed on the political arena by recycling and this is clearly reflected in current legislation.

THE BENEFITS OF RE-USE

The ultimate goal of waste policy is to protect the environment by using natural resources in the most efficient way so that less waste is generated and its toxicity is reduced to the lowest level possible.

Repair and re-use of end-of-life products delay or avoid products becoming waste. By extending the life of a product we reduce the need to buy new products, and therefore the need to consume energy and raw materials in their manufacture and distribution, is postponed. Re-use also reduces waste management costs because it may avoid treatment costs.

An additional area of interest regarding the re-use is its potential to cycle useful commodities back into commerce, to create jobs and to bring about economic development.

Moreover, re-use provides social benefits. Social economy projects active in the re-use of products create and sustain jobs for people at risk such as long-term unemployed, disabled and youngsters. Re-use also offers essential household items for people with low incomes [4].

Environmental benefits

As mentioned above, re-use of appliances compensate the need to produce new appliances, thus saving its embodied energy, materials and chemicals. Upgrading an existing computer can save 5 to 20 times more energy than purchasing a new one [5].

Furthermore, re-use is one of the best resource efficiency strategies for reducing greenhouse gas emissions. From the case studies developed by UK research body WRAP, it was estimated that UK households could save around £1 billion per year and avoid producing 1 million tonnes CO2 eq per year from current levels of re-use [6]. WRAP is a not-for-profit company set up in 2000 to help recycling, take off and to create a market for recycled materials. WRAP works in England, Scotland, Wales and Northern Ireland.

In the studies WRAP has also estimated that current reuse of T-shirts (about 120 million T-shirts, ca 30 000 tonnes) [6] and sofas (up to 1 million sofas, ca 37,000 tonnes, which is about 17% of all the sofas reaching the end of their life each year) [6] are re-used in some form in the UK every year save 450 000 tonnes CO2-equivalent and 52 000 tonnes CO2 equivalent per year. More about environmental impact of re-using computers is presented in table 1.

Table 1. Environmental impact of re-using e-waste
Tablica 1. Utjecaj ponovne uporabe e-otpada na okoliš

Equivalent of annual savings from re-used computers:	
1,045 tons of whole unit computers =	172 474 barrels of oil
	7,2 million gallons of gasoline
	71 967 tons in CO2 emissions

The importance of re-use is increasing due to the fact that we are in the midst of a throwaway culture with diminishing life spans of products as well as high repair costs. One study found that the average lifespan of a personal computer dropped from about 8 years in 1990 and estimated to be just under 2 years in 2010 [2, 8, 9].

Socio-economic opportunities

An additional area of interest regarding the re-use is its potential to cycle useful commodities back into commerce, to create jobs and to bring about economic development.

Re-use requires intensive work and involves various positions. From collection, sorting and testing to refurbishing and reselling. Social enterprises working in the field of re-use provide opportunities for those distanced from the labour market to gain key skills such as driving commercial vehicles, carpentry, electrical engineering or marketing - even intricate trash design or eco-fashion activities [10, 11]. Therefore, socio-economic benefits of re-use are indisputable.

One of the well-taken examples is from France. It costs the government 20 000 EUR to support one unemployed person. By funding integration contracts in the field of textile collection, reuse and recycling, the state only pays half of this amount and ends up saving 2 Euros for every Euro spent. At the same time it improves the skills of its workers and boosts green jobs [2].

And there are more solid numbers that support the theory of socio-economic benefits of re-use. For example UNIDO and Microsoft found that re-use of computer creates 296 jobs for every 10 000 tonnes of material disposed of each year [12, 13]. Similar results published Illinois Department of Commerce and Economic Opportunity in the study about opportunities and impacts of recycling electronics. They found out that repairing electronics can generate 13 times more job opportunities than recycling and even 200 times as many jobs as land filling [5] (see Table 2.)

Table 2. Creation of the jobs by treatment of waste electronics
Tablica 2. Stvaranje radnih mjesta obradom otpada elektronike

For every 1 000 tons of electronics:	
Land filled	less than 1 job is created
Recycled	15 jobs are created
Repaired	200 jobs are created

Beside this, these jobs correlate to direct and indirect economic growth through payroll, taxes, and consumer spending.

More details about the benefits of re-using can be found for example in an article “Bulky Waste Guidance: Benefits of reusing & recycling bulky waste” [6].

PERCEPTIONS ABOUT SECOND-HAND PRODUCTS

A sufficient state of knowledge is prerequisite to an advancement of this field of waste management. A development of these activities often depends on funding, which requires political willingness and will of the general public. Therefore it is necessary to create or maintain a favourable image, reputation and a good will and willingness of people to buy re-use products.

According to a survey conducted by the EU [1], almost 7 in 10 (68%) EU citizens are willing to buy certain second-hand items, such as furniture, electronic equipment or textiles. The proportion of those who are willing to buy second-hand products ranged from 40% in Slovakia to 86%-87% in Finland and Sweden.

Demand for second-hand products

A majority (56%) of EU citizens said they would buy second-hand furniture and less than half (45%) electronic equipment on a second-hand basis. Comparatively smaller proportions (36%) of EU citizens are willing to buy second-hand textiles (e.g. clothing, bedding or curtains).

According to the same survey 8 out of 10 EU citizens felt that a product's environmental impact (such as whether the w product was re-usable or recyclable) was an important element when deciding which product to buy (39% "very important" and 41% "rather important").

Reasons for not buying second-hand products

The main reason that prevented people from buying second-hand goods is quality and usability of the product (58%) and health and safety concerns (50%). Beside that, what discourages the consumers from buying second-hand products is not only less appealing look of the product (about 25 %), but also fear of what others might think (mentioned as a reason by 5% of customers).

CONCLUSION

The article presents several strong arguments for repair and re-use of the waste products. Despite the above-mentioned benefits, there are still things in waste management that need to be worked on. The main one is the quality of products and health and safety concerns. Beside the knowledge exchange, a preparation of quality standards (e.g. as Code of good practice for Flanders [15] is available) and accreditation systems is essential for the further development.

Regarding the electronics, there are even more obstacles. For example inability to disassemble product easily for repair, lack of available spare parts and manufactured standardised parts by third parties. It leads to often expensive re-use and repair industry which is also hit by high labour taxes.

What are the ways to improve the re-use segment? The basis is improved legislative such as reduction of VAT taxes on repair work which may boost its viability

and make repairs and refurbishment cheaper [2].

One of the ways, how to give the re-use segment some edge, is connected to economic incentives. Differentiated visible disposal fees for the purchase of new products that are more easily repaired and disassembled could be an interesting way to support the design of products that last. Beside this, focusing waste management towards re-use can help meet a number of local authority objectives and bring additional social economic and environmental benefits to the community.

From practical side, establishing cooperation between re-users, retailers and purchasers to re-introduce re-used items into the market via shops or through special provisions in public procurement might be the right direction.

Last, but not least important, education about the benefits of waste prevention and re-use is essential. Continuation of existing education programmes will form a key part in moving towards a more sustainable mode of consumption.

This article was created within the CERREC project (Central Europe Repair & Re-use Centres and Networks) that aims to achieve environmental, social and economic goals by supporting expansion of the re-use market. The specific objectives of CERREC project are to implement repair and re-use networks and centres adapted to the specific conditions of the participating Central Europe states. For that several tools will be developed like concepts for reuse networks and centres, a quality standard guideline, and a handbook describing an accreditation system. Beside this, a strong participation of relevant national and regional stakeholders is attained.

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